

3rd International Cadmium and Trace Elements Conference

ICTEC 2026

Sassari, Sardinia, Italy | 24 - 26 June 2026

FULL PROGRAMME

Wednesday, 24 June 2026 - Morning

Aula Magna, Piazza Università 21

10:00

Registration Opening I - Aula Magna, Piazza Università 21

11:00 - 12:00

Opening Ceremony

- Institutional Greetings
- Greetings from Authorities
- Musical Performance by Maria Giovanna Cherchi
- Opening Plenary Lecture by Prof. Jinyong Lee - Aichi Gakuin University, Japan
- Performance by the University of Sassari Choir

12:00

Welcome Light Lunch

Wednesday, 24 June 2026 - Afternoon

Sala conferenze, Palazzo ERSU, Via Coppino 19

14:00

Registration Opening II

14:30 - 15:45 CELL BIOLOGY I

Co-Chairs Wing Kee Lee | Serenella Medici

14:30 - 14:45

Smoking Derived Trace Elements and Cardiovascular Diseases - Biological and Clinical Implications

Franziska Wittmann *Medical University of Vienna, Austria*

14:45 - 15:00

Manganese homeostasis in the nervous system

Michael Aschner *Albert Einstein College of Medicine, USA*

15:00 - 15:10

Cadmium Triggers Lysosomal Exocytosis via the Endo-/Lysosomal Ion Channel TRPML1 in Renal Pathophysiology

Kaya Elisa Witte *Physiology and Pathophysiology of Cells and Membranes, Medical School OWL, Bielefeld University, Germany*

15:10 - 15:20

The extreme C-terminus of PMS2 licenses MutLa mismatch repair activity and suppresses microsatellite instability

Aishwarya Prakash *Department of Biochemistry and Molecular Biology, University of South Alabama, Mobile, Alabama, USA*

15:20 - 15:45

Discussion

15:45 - 17:00 ENVIRONMENT & FOOD I

Co-Chairs Agneta Åkesson | Marco Vinceti

- 15:45 - 16:00** Trace elements and challenges to global public health
Margherita Ferrante *Environmental and Food Laboratory, University of Catania, Italy*
- 16:00 - 16:10** Identifying Drivers of Skeletal Deformities in Fish from Iron Ore Mine-Impacted Waters in Northern Sweden
Magnus Karlsson *IVL Swedish Environmental Research Institute, Sweden*
- 16:10 - 16:20** Tracing elements in chick gulls: trophic and spatial patterns of contamination
Lukasz Binkowski *Institute of Biology and Earth Sciences, University of the National Education Commission, Krakow, Poland*
- 16:20 - 16:30** Natural environment and health: how strong is the link?
Paolo Valera *Department of Civil-Environmental Engineering and Architecture, University of Cagliari, Italy*
- 16:30 - 16:40** Cadmium and Heavy Metal Exposure: Integrating Biomonitoring and Reproductive Toxicity in Young Adults
Rossella Tomaiuolo *Università Vita-Salute San Raffaele, Italy*
- 16:40 - 17:00** Discussion

17:00 - 17:30 Coffee Break

17:30 - 18:45 CANCER & OTHER DISEASES I

Co-Chairs Michael Aschner | Paolo Valera

- 17:30 - 17:45** Heavy metal accumulation in biological matrices of cancer patients
Serenella Medici *Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Italy*
- 17:45 - 17:55** Long-term cadmium exposure and fractures, cardiovascular disease, and mortality in a prospective cohort of women
Agneta Åkesson *Institute of Environmental Medicine, Karolinska Institutet, Sweden*
- 17:55 - 18:05** Hair zinc, copper, and Zn/Cu ratio in children with autism spectrum disorder: an exploratory case-control study
Maria Fiore *Department of Medical, Surgical Sciences and Advanced Technologies "G.F. Ingrassia", University of Catania, Italy*
- 18:05 - 18:15** Arsenic-induced atherosclerosis in a humanized Arsenic (3) Methyltransferase hyperlipidemic mouse model
Koren K. Mann *Lady Davis Institute / McGill University, Canada*
- 18:15 - 18:45** Discussion

Thursday, 25 June 2026

09:00 - 10:15 TOXICOLOGY I

Co-Chairs Jin-Yong Lee | Margherita Ferrante

- 09:00 - 09:15** The safe range of selenium intake: lessons from experimental human studies
Marco Vinceti *Section of Public Health, University of Modena and Reggio Emilia Medical School, Modena, Italy*
- 09:15 - 09:30** From Safe Doses to Risky Mixtures: The Toxicity of Real-Life Metal Mixtures
Aleksandra Buha Djordjevic *Department of Toxicology, University of Belgrade-Faculty of Pharmacy, Serbia*
- 09:30 - 09:40** Manganese: A neurotoxic compound with a 'soft' health-based guidance value
Thorhallur Ingi Halldorsson *Faculty of Food Science and Nutrition, University of Iceland*
- 09:40 - 09:50** Toxicological Risk Assessment of Elemental Impurities in Pharmaceutical Products
Ahmet Aydin *Department of Pharmaceutical Toxicology, Faculty of Pharmacy, Yeditepe University, Istanbul, Turkey*
- 09:50 - 10:15** Discussion

10:15 - 11:30 CELL BIOLOGY II

Co-Chairs John Wise | Tommaso Filippini

- 10:15 - 10:30** Dependency of metal toxicity on its speciation: lessons from cadmium and hexavalent chromium in the kidney
Wing Kee Lee *Physiology and Pathophysiology of Cells and Membranes, Medical School OWL, Bielefeld University, Germany*
- 10:30 - 10:40** The cadmium-induced renal toxicity regulated by the transcriptional pathway
Jin-Yong Lee *School of Pharmacy, Aichi Gakuin University, Japan*
- 10:40 - 10:50** Investigating the Effects of Cadmium Exposure on Prostate Cancer Cell Behaviour and Metastatic Signalling
Melissa Santos *Department of Life Sciences, University of Westminster, United Kingdom*
- 10:50 - 11:00** Modulation of Gemcitabine Sensitivity by Chronic Cadmium Exposure in Pancreatic Cancer Cells
Federica Etzi *Department of Biomedical Sciences, University of Cagliari, Italy*
- 11:00 - 11:10** Female reproductive toxicology of cadmium
Peter Massanyi *Slovak University of Agriculture in Nitra, Institute of Applied Biology, Nitra, Slovak Republic*
- 11:10 - 11:30** Discussion

11:30 - 12:00 Coffee Break

12:00 - 13:30 **FLASH TALK I** - Cell Biology, Cancer & Other Diseases

Co-Chairs Biljana Antonijevic | Paola Caria

- P 1** **Alica Navrátilová** - *Tor1 Modulates Adaptive Responses to Cadmium: Enhanced Metabolic Plasticity Following Sub-Toxic Pre-Exposure*
Institute of Nutrition and Genomics, Slovak University of Agriculture in Nitra, Slovakia
- P 2** **Verena Charwat** - *Human iPSC-Based Cardiac Platforms for Translational Cardiotoxicity Testing*
Department of Pathophysiology, Johannes Kepler University, Linz, Austria
- P 3** **John Wise** - *Of Whales and Men, Translating How Chromosome Instability Drives Environmental Lung Carcinogenesis across Species and Biological Levels of Organization*
Department of Pharmacology and Toxicology, University of Louisville, USA
- P 4** **Loris Zamai** - *Results and troubleshooting in intracellular heavy metal-targeting of a fluorescent hydroxy naphthyl-methylbenzoxazole based dye*
Department of Biomolecular Sciences (DISB), University of Urbino Carlo Bo, Italy
- P 5** **Tomas Jambor** - *The effect of ZnO nanoparticles on H295R cells in vitro*
Institute of Applied Biology, Faculty of Biotechnology and Food Sciences, Slovak University of Agriculture in Nitra, Nitra, Slovak Republic
- P 6** **Marcella Malavolti** - *Trace metal exposure and childhood leukemia risk: an Italian case-control study*
Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Italy
- P 7** **Claudia Trignano** - *Post Mortem Cerebrospinal Fluid for Trace Metal Analysis: A Pilot Study on Analytical Potential and Interpretative Pitfalls*
Department of Biomedical Sciences, University of Sassari, Sassari, Italy; Unit of Legal Medicine, AOU Sassari, Italy

10 min Discussion

Co-Chairs Jamie Wise | Maria Fiore

- P 8** **Giacomo Senzacqua** - *Plasma Metallome Profiling by ICP-MS/MS in Bipolar Disorder and Major Depressive Disorder: A Chemometric Cross-Sectional Study*
Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Italy
- P 9** **Teresa Urbano** - *Trace element exposure and risk of progression from mild cognitive impairment to dementia*
Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Italy
- P 10** **Daive Marco Tutedde** - *Amyotrophic Lateral Sclerosis and Trace Elements: A Preliminary Case-Control Study in Sardinia, Italy*
Department of Biomedical Sciences, University of Sassari, Italy
- P 11** **Đurđica Marić** - *Levels of Toxic Metals in the Meconium of Newborns*
Department of Toxicology "Akademik Danilo Soldatović", Faculty of Pharmacy, University of Belgrade, Serbia
- P 12** **Wioleta Justyna Omeljaniuk** - *Maternal copper levels in early pregnancy and risk of miscarriage*
Department of Analysis and Bioanalysis of Medicines, Medical University of Białystok, Poland
- P 13** **Giovanni Forte** - *Concentration of metals in follicular fluid of women undergoing assisted reproductive technology*
Department of Environment and Health, Italian National Institute for Health, Rome, Italy
- P 14** **Ankica Sekovanić** - *Cadmium and lead in placentas: evidence from Croatia*
Division of Occupational and Environmental Health, Institute for Medical Research and Occupational Health, Zagreb, Croatia

10 min Discussion

13:30 - 14:30

Lunch with the "Coro Don Renato Loria di Muros" (traditional Sardinian choir)

14:30 - 15:45 CANCER & OTHER DISEASES II

Co-Chairs Thorhallur Ingi Halldorsson | Claudia Trignano

- 14:30 - 14:45** Trace elements as biomarkers in oral carcinogenesis: Where we stand in India!
Sunali Khanna *Department of Oral Medicine and Radiology, Nair Hospital Dental College, Mumbai, India*
- 14:45 - 15:00** Adipose tissue cadmium as a biomarker of long-term cadmium exposure and its cardiometabolic implications in the GraMo cohort
Juan Pedro Arrebola Moreno *Department of Preventive Medicine and Public Health, University of Granada, Spain*
- 15:00 - 15:10** Plasma and Urinary Heavy Metal Profiles as Biomarkers for Prostate Disease Progression: A Multi-Metal ICP-MS Study
Donatella Coradduzza *Department of Biomedical Sciences, University of Sassari, Italy*
- 15:10 - 15:20** It's Complicated: How Sex, Diet and Metals Interact to Drive Liver Disease
Jamie Wise *Department of Pharmacology and Toxicology, University of Louisville, USA*
- 15:20 - 15:45** Discussion

15:45 - 17:00 ENVIRONMENT & FOOD II

Co-Chairs Ahmet Aydın | Luisa Bogliolo

- 15:45 - 16:00** New insights into human biomonitoring of cadmium exposure
Silvia Fustinoni *Department of Clinical Sciences and Community Health, University of Milan, Italy*
- 16:00 - 16:10** Cadmium Burden and Disrupted Metal Homeostasis in Multiple Sclerosis Patients from a Volcanic Area: A Case-Control Study
Chiara Copat *University of Catania, Italy*
- 16:10 - 16:20** Density-dependent efficiency: the role of isidia and algal cells on mercury accumulation in lichens
Ait Kaci Mazari *Department of Life Sciences, University of Trieste, Italy*
- 16:20 - 16:30** Importance of chemical speciation in understanding the cycling of mercury in the environment
Julia Lu *Toronto Metropolitan University, Canada*
- 16:30 - 17:00** Discussion

17:00 - 17:30 **Coffee Break**

17:30 - 19:15 FLASH TALK II - Environment, Agriculture & Veterinary

Co-Chairs Koren K Mann | Massimiliano F. Peana

- 17:30 - 17:45** Opening address - Scientific journal presentation **Toxics**
- P 15** **Andrea Podda** - *Elevated Temperature Potentiates Cadmium Toxicity during In Vitro Maturation of Oocytes and Early Embryonic Development in the Ovine model*
Department of Veterinary Medicine, University of Sassari, Italy
- P 16** **Stefania Squadrone** - *Comparative analysis of cadmium profiles in liver, kidney, and muscle of bovines, equines, and cervids*
Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, Italy
- P 17** **Anton Kovacik** - *Differential association of trace elements with homocysteine and oxidative stress markers in freshwater fish in situ*
Institute of Applied Biology, Faculty of Biotechnology and Food Sciences, Slovak University of Agriculture in Nitra, Slovakia

- P 18** **Andrea Sanna** - *Heavy Metals in Blue Crab (*Callinectes sapidus*) from Sardinia: Preliminary Food Safety Assessment*
Istituto Zooprofilattico Sperimentale della Sardegna, Italy
- P 19** **Barbara Brodziak-Dopierała** - *Analysis of mercury concentration in selected types of loose-leaf teas*
Department of Toxicology and Bioanalysis, Faculty of Pharmaceutical Sciences, Medical University of Silesia, Poland
- P 20** **Giovanni Garau** - *Influence of drip irrigation on the mobility and accumulation of As, Cd, and Ni in a commercial hybrid rice variety*
Dipartimento di Agraria, University of Sassari, Italy
- P 21** **Mirosław Wyszowski** - *Role of humic acids in shaping trace element content in maize cultivated on iron-supplemented soil*
Department of Agricultural and Environmental Chemistry, University of Warmia and Mazury in Olsztyn, Poland

10 min Discussion

Co-Chairs Miroslava Požgajová | Giovanni Garau

- P 22** **Bronislava Voleková** - *Cadmium Distribution in Soils and Iron Oxyhydroxides: Implications for Environmental Mobility*
Slovak National Museum - Natural History Museum, Slovakia
- P 23** **Catarina Isabel Guerra Rodrigues Mansilha** - *Legacy Cadmium in Abandoned Mining Waste Deposition Areas*
National Institute of Health Dr. Ricardo Jorge (INSA, IP), Portugal
- P 24** **Eliška Gbúrová Štubňová** - *Cadmium accumulation in plants and fungi growing on historically contaminated mining sites*
Slovak National Museum - Natural History Museum, Slovakia
- P 25** **Marian Tomka** - *D-3-Hydroxybutyrate in fish: seasonal dynamics and associations with selected trace elements in situ*
Institute of Biotechnology, Slovak University of Agriculture in Nitra, Slovakia
- P 26** **Massimiliano Francesco Peana** - *A Sustainable Strategy for Metal Remediation: Sequestration and Speciation of trans-Aconitic Acid with Divalent Cations*
Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Italy
- P 27** **Julia Lu** - *Review of Heavy Metals Associated with Airborne Particulate Matter in Africa*
Department of Chemistry and Biology, Toronto Metropolitan University, Canada
- P 28** **Nora Kováts** - *Municipal waste burning: an important source of atmospheric cadmium*
University of Pannonia, Centre for Natural Sciences, Veszprém, Hungary
- P 29** **Viktória Krajanová** - *Raman spectroscopy of cadmium oxalate: Implication for bioremediation*
Slovak National Museum - Natural History Museum, Slovakia

10 min Discussion

20:30

Social Dinner - Restaurant Il Cenacolo

Friday, 26 June 2026

09:00 - 10:15 TOXICOLOGY II

Co-Chairs Aleksandra Buha Djordjevic | Rossella Tomaiuolo

- 09:00 - 09:15** Cadmium and cardio-metabolic risk: epidemiological evidence
Tommaso Filippini *Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Italy*
- 09:15 - 09:30** Early-life cadmium exposure and child health and development: two decades of insights
Maria Kippler *Institute of Environmental Medicine, Karolinska Institutet, Sweden*
- 09:30 - 09:40** Environmental mixtures with cadmium: a multi-contaminant perspective
Biljana Antonijević *Department of Toxicology, University of Belgrade, Serbia*
- 09:40 - 09:50** Single-cell mass cytometry for immune profiling and trace-element detection: from nanomaterials to cadmium at the cellular level
Lucia Gemma Delogu *University of Padua & Khalifa University, UAE*
- 09:50 - 10:15** Discussion

10:15 - 11:30 AGRICULTURE & VETERINARY I

Co-Chairs Juan Pedro Arrebola Moreno | Maria Grazia Cappai

- 10:15 - 10:30** In Vitro Assessment of Heavy Metal-Induced Toxicity on Mammalian Female Gametes
Luisa Bogliolo *Department of veterinary Medicine, University of Sassari, Italy*
- 10:30 - 10:40** Mitigating cadmium in multi-contaminated mining soils: long-term field evidence for biochar-assisted phytostabilization
Stefania Diquattro *University of Sassari, Italy*
- 10:40 - 10:50** Concentrations of biogenic and risk elements in semen of various animals and their correlations
Peter Massanyi *Slovak University of Agriculture in Nitra, Institute of Applied Biology, Nitra, Slovak Republic*
- 10:50 - 11:00** Nickel-Triggered Toxicity Disrupts Antioxidant Capacity and Cell Cycle Regulation in Fission Yeast Through Altered Tor and MAPK Signaling
Miroslava Požgajová *AgroBioTech Research Center, SUA in Nitra, Slovakia*
- 11:00 - 11:10** Circulating elements in the bloodstream of growing foals: focus on heavy metals and bone remodeling across growth stages
Dávid Hulitka *Department of Veterinary Medicine, University of Sassari, Italy*
- 11:10 - 11:30** Discussion

11:30 - 12:00 Coffee Break

12:00 - 13:15 CELL BIOLOGY III

Co-Chairs Aishwarya Prakash | Loris Zamai

- 12:00 - 12:15** Cadmium-Induced Non-Coding RNA Reprogramming and Phenotypic Plasticity in Aggressive Epithelial Cancers
Pinar Uysal-Onganer *Cancer Mechanisms and Biomarkers Research Group, University of Westminster, London, United Kingdom*
- 12:15 - 12:25** Cadmium complexation with glutathione: new insights into cellular uptake mechanisms
Nadiya Romanova *Physiology and Pathophysiology of Cells and Membranes, Medical School OWL, Bielefeld University, Germany*
- 12:25 - 12:35** Co-exposure to arsenic and cadmium enhances DNA damage and apoptosis in 3T3 fibroblast cells
Gülşah Armut *Institute of Graduate Studies in Sciences, Istanbul University, Turkey*
- 12:35 - 12:45** Kupffer Cells as Key Targets of Hepatic Cadmium Handling: Putative Uptake Mechanisms of Free and Protein-Bound Cadmium
Nicole Mangazeev *Physiology and Pathophysiology of Cells and Membranes, Medical School OWL, Bielefeld University, Germany*
- 12:45 - 13:00** Discussion

13:00 - 14:00 Lunch

14:00 - 15:30 FLASH TALK III - Toxicology

Co-Chairs Sunali Khanna | Lucia Gemma Delogu

- P 30** **Stefania Squadrone** - Cadmium contamination in seafood: RASFF trends and ICP-MS monitoring results
Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, Italy
- P 31** **Marie Elisabet Vahter** - Blood arsenic, mercury, and selenium as biomarkers of seafood intake: association with children's cognitive abilities
Institute of Environmental Medicine, Karolinska Institutet, Sweden
- P 32** **Jovana Živanović** - Potential protective molecular mechanisms of magnesium against cadmium toxicity: a toxicogenomic analysis
Department of Toxicology "Akademik Danilo Soldatović", Faculty of Pharmacy, University of Belgrade, Serbia
- P 33** **Vincenza Caruana** - e-cigarette aerosols as a source of inhaled metal exposure and pulmonary metal deposition
McGill University, Canada
- P 34** **Tommaso Filippini** - Risk assessment of titanium dioxide (E171) intake in an Italian population before 2021 ban by the European Union
Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Italy
- P 35** **Agnieszka Fischer** - Analysis of mercury concentration in various honeys available on the Polish market
Department of Toxicology and Bioanalysis, Faculty of Pharmaceutical Sciences, Medical University of Silesia, Poland
- P 36** **Stefania Squadrone** - Cadmium levels in complete feed: a 14 year monitoring study in Northwestern Italy
Istituto Zooprofilattico Sperimentale del Piemonte, Liguria e Valle d'Aosta, Italy
- 10 min** Discussion

Co-Chairs Jurgen Gailer | Donatella Coradduzza

- P 37** **Grazia Fenu Pintori** - *S-Drive Artificial Intelligence for Heavy Metal Screening*
Department of Biomedical Sciences, University of Sassari, Italy
- P 38** **Massimiliano Francesco Peana** - *Synthetic Mn-Peptide Antioxidant Systems*
Inspired by Deinococcus radiodurans: Applications in Radioprotection and Biotechnology
Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Italy
- P 39** **Jovana Jakovljević Uzelac** - *The impact of metal mixtures on red blood cell and thrombocyte parameters in male and female Wistar rats*
Institute of Medical Physiology "Richard Burian", Faculty of Medicine, University of Belgrade, Belgrade, Serbia
- P 40** **Tatjana Djukic** - *The impact of metal mixtures on white blood cell differential in male and female Wistar rats*
Institute of Medical and Clinical Biochemistry, Faculty of Medicine, University of Belgrade, Serbia
- P 41** **Klaudia Jaszczka** - *The effect of mercury on rat kidneys in vivo*
University of Agriculture in Kraków, Poland
- P 42** **Asia Sarti** - *Association between Selenium species and brain volume in subjects with mild cognitive impairment*
Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Modena, Italy
- P 43** **Claudia Trignano** - *Beyond the Number: Biological Limits, Cut-Offs and Interpretative Challenges in Trace Metal Exposure*
Department of Biomedical Sciences, University of Sassari, Sassari, Italy; Unit of Legal Medicine, AOU Sassari, Italy

10 min Discussion

15:30 - 16:45 TOXICOLOGY III

Co-Chairs Peter Massányi | Silvia Fustinoni

- 15:30 - 15:45** Tackling the effects of chronic human lifetime exposure to toxic metal(loid)s: can results from advanced LC studies contribute to predict disease onset?
Juergen Gailer *Department of Chemistry, University of Calgary, Canada*
- 15:45 - 15:55** Cadmium is not just Cd²⁺: the overlooked role of hydrolysis in environmental speciation and remediation
Rosita Cappai *Department of Chemical, Physical, Mathematical and Natural Sciences, University of Sassari, Italy*
- 15:55 - 16:05** Vascular effects of exposure to accidental doses of cadmium in female rats - Protective effect of Red Quinoa Hydrolysate Hydrolysate: a plant-based therapeutic alternative
Samia Hassan Hussein Kanaan *Universidade Federal do Pampa, Brazil*
- 16:05 - 16:15** Imaging-based fish cell micronucleus assay for trace metal genotoxicity: toward animal-reduced, high-throughput evaluation
Verena Charwat *Department of Pathophysiology, Johannes Kepler University, Linz, Austria*
- 16:15 - 16:45** Discussion

16:45 - 17:00 **Best Talks & Flash Talks Abstract Awards**

17:00 **Closing remarks**

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